Gravina Access Project
Essential Fish Habitat Assessment

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Prepared for:

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1.0 Project Description:

A. Location

The Alaska Department of Transportation and Public Facilities (ADOT&PF), in cooperation with the Federal Highway Administration (FHWA), is preparing an Environmental Impact Statement to assess alternatives to improve transportation access between Revillagigedo Island and Gravina Island. The two islands are separated by Tongass Narrows, a 13-mile-long waterway that varies in width from ¼ mile to 1 mile. Access from the two islands is currently provided via regular ferry service. The Gravina Access Project area is located in the Ketchikan Gateway Borough (Borough) in southeast Alaska, about 680 miles north of Seattle, Washington, and 235 miles south of Juneau, Alaska. Most of the Borough's 14,000 residents live on Revillagigedo Island (on the eastern side of Tongass Narrows), whose major cities are Ketchikan and Saxman.

B. Proposed Action and Impact Summary

This project is one of 17 high-priority infrastructure projects in the State of Alaska to be federally funded under the Federal Transportation Equity Act for the 21st Century (TEA-21), enacted in 1998. The Act authorizes approximately $20 million for construction of a bridge joining Gravina Island to the community of Ketchikan on Revillagigedo Island.

The proposed project would consist of constructing a bridge (or two bridges) or ferry terminals and associated roadways. The project would require fill in Tongass Narrows regardless of whether a ferry or bridge alternative is selected. The project alternatives would require bridge crossings over anadromous fish streams. Figure 1 shows the anadromous fish streams in the project area and the project alternatives being evaluated. All build alternatives would require a bridge crossing at two channels of Airport Creek and alternatives G3, F1 and F3 would require a bridge crossing at Government Creek and a bridge crossing at an unnamed creek south of Government Creek. Alternatives C3(a/b), C4, D1, G2, G3, and G4 would also require placement of fill immediately adjacent to the lowermost segment of Government Creek, which is considered Essential Fish Habitat (EFH, defined below in Section 2). Alternatives F1 and F3 would require placing culverts in an unnamed anadromous fish stream.

Alternative F3 also includes widening to improve navigational clearances in the West Channel. This modification of West Channel would require blasting and dredging along a 2,000-foot-long segment of the channel. Approximately 63,000 cubic yards of "surficial sediment" material would be removed without blasting. Below that material is approximately 16,100 cubic yards of bedrock, which would require blasting to be removed. Channel widening would impact approximately 14 acres of subtidal habitat from areas adjacent to Gravina and Pennock Islands. The associated cross-sections are shown in Figure 2, and the areas of the West Channel to be widened are shown on Figure 3. To remove the rock by blasting, holes would be drilled into the rock at 10-foot intervals as deep as needed to pack the explosives to direct the force of the blast into the rock.

Table 1-1 shows the potential impacts from each alternative on EFH based on preliminary engineering design. This report assesses potential impacts to EFH by project

alternatives and recommends conservation measures to avoid, minimize, or offset impacts to EFH.

TABLE 1-1
POTENTIAL IMPACTS ON ESSENTIAL FISH HABITAT (ACRES)

		Bridge Alternatives[1]						*Ferry Alternatives*[2]		
Type of Essential Fish Habitat	*No-Action*	*C3(a)*	*C3(b)*	*C4*	*D1*	*F1*	*F3*[3]	*G2*	*G3*	*G4*
Freshwater	0.0	0.08	0.08	0.08	0.08	0.16	0.16	0.08	0.12	0.08
Marine	0.0	6.55	6.59	6.82	4.12	0.41	14.56	0.92	1.62	0.40
Wetlands	0.0	44.1	42.4	39.0	36.3	103.3	85.2	42.5	47.5	35.4
Total	0.0	50.73	49.07	45.90	40.50	103.87	99.92	43.5	49.24	35.88

[1] *Bridge Alternatives:*
Alternative C3(a) = 200' Bridge between Signal Road and South of Airport Terminal
Alternative C3(b) = 120' Bridge between Signal Road and Airport Terminal
Alternative C4 = 200' Bridge Between Tongass Avenue (North of Cambria Drive) and South of Airport Terminal
Alternative D1 =120' Bridge Between Tongass Avenue (near Existing Ferry) and Airport Terminal
Alternative F1= Bridges (200' East and 120' West) Between Tongass Avenue and Airport, via Pennock Island
Alternative F3 = Bridges (60' East and 200' West) Between Tongass Avenue and Airport, via Pennock Island

[2] *Ferry Alternatives:*
Alternative G2 = Ferry Between Peninsula Point and Lewis Point
Alternative G3 = Ferry Between Downtown and South of Airport
Alternative G4 =Ferry Between New Terminals Adjacent to Existing Ferry Terminals

[3] *Assumes channel modification would be required*

2.0 Background Information

A. Magnuson-Stevens Fishery and Conservation Management Act

The Magnuson-Stevens Fishery and Conservation and Management Act (MSFCMA) defines EFH as:

> *"…waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity…. For the purpose of interpreting the definition of essential fish habitat, 'waters' include aquatic areas and their associated physical, chemical, and biological properties that are used by fish and may include aquatic areas historically used by fish where appropriate; 'substrate' includes sediment, hard bottom, structures underlying the waters, and associated biological communities; 'necessary' means the habitat required to support a sustainable fishery and the managed species' contribution to a healthy ecosystem; and 'spawning, breeding, feeding, or growth to maturity' covers a species' full life cycle."*
>
> *-50 CFR 600.10*

The MSFCMA directs federal agencies to consult with the National Marine Fisheries Service (NMFS aka NOAA Fisheries) when any of their activities may have an adverse effect on EFH. According to Section 600.810 of Subpart J of the MSFCMA, an adverse effect is "any impact which reduces quality and/or quantity of EFH." This section also notes that "adverse effects may include direct (e.g., contamination or physical disruption), indirect (e.g., loss of prey, or reduction in species' fecundity), site-specific or habitat-wide impacts, including individual, cumulative, or synergistic consequences of actions."

ADOT&PF and NMFS Agreement of EFH Consultations

In accordance with a November 3, 1999 ADOT&PF and NMFS agreement on EFH consultations (Appendix A) for projects involving an EIS, ADOT&PF, on behalf of the FHWA, has determined that this project may cause permanent and temporary adverse effects on EFH. Placement of bridges for stream crossings may cause temporary adverse effects on EFH. In addition, placement of fill immediately adjacent to the lowermost segment of Government Creek and its estuary may cause a permanent loss of EFH. Placing culverts in anadromous fish streams would cause a permanent loss of EFH. Dredging and blasting for channel modification would also cause permanent loss of EFH.

3.0 Affected Essential Fish Habitat

Tongass Narrows is designated as EFH under the MSFCMA for 11 species of ground fish and 5 species of Pacific salmon. Most are primarily late juveniles and adults, and may use the Narrows as a migratory corridor to other rearing areas in nearby bays and intertidal areas. In addition to the marine habitat of Tongass Narrows, anadromous fish streams documented by the Alaska Department of Fish and Game (ADF&G) in the Anadromous Waters Catalog (ADF&G 1998) are designated as EFH in the project area. These include Government Creek, Airport Creek, **and its tributary**, and two unnamed streams (Figure 1). These waterways are defined as anadromous fish streams, which are those streams necessary for salmon spawning, breeding, feeding, or growth to maturity (NMFS 1998).

A. Species

The following EFH data was obtained from NMFS through telephone conversations, response letters, and the NMFS EFH web site. A response letter received in October 1999 indicated 16 species as having EFH within Tongass Narrows (See Appendix B for copy of letter). All 16 species are found within the current project area that includes Tongass Narrows and several anadromous streams. Conversations with Linda Shaw, NMFS, on October 15, 2002 have verified this list as still being accurate for the project area. Table 3-1 shows the life stages of each species as they are found within the project area.

Preliminary consultation with the NMFS established that the following fish species may be adversely impacted by the proposed action: arrowtooth flounder (*Atheresthes stomias*), dusky rockfish (*Sebastes ciliatus*), Pacific cod (*Gadus macrocephalus*), Pacific ocean perch (*Sebastes alutus*), shortraker rockfish (*Sebastes borealis*), rougheye rockfish (*Sebastes aleutianus*), sablefish (*Anoplopoma fimbria*), sculpin (*Cottidae* spp.), skates *(Raja* spp.), walleye pollock (*Theragra calcogramma*), yelloweye rockfish (*Sebastes ruberrimus*), and all five Alaskan salmon species (*Oncorhynchus* spp.). Tongass Narrows supports habitat for all five Alaskan salmon species, which are likely to occupy the Narrows at various times of the year for feeding and migration. The anadromous fish streams in the project footprint contain three species of salmon: pink, coho and chum salmon (NMFS 1999).

Many of the species with EFH in the project area are of high commercial value and support the local and state economy through commercial and sport fisheries. Ketchikan's commercial fishing industry generates more than $90 million annually and provides more than 1,500 full time jobs (USKH 2000).

TABLE 3-1 ESSENTIAL FISH HABITAT SPECIES IN PROJECT AREA

Ground Fish Species	Egg	Larvae	Late Juvenile	Adult	Spawning
Pacific Ocean Perch			X	X	
Yelloweye Rockfish			X	X	
Shortraker			X	X	
Rougheye Rockfish			X	X	
Dusky Rockfish			X	X	
Walleye Pollock	X			X	
Sablefish			X	X	
Pacific Cod			X	X	
Arrowtooth Flounder			X	X	
Sculpin spp.			X	X	
Skates spp.			X	X	

Salmon Species	Egg and larvae – fresh water	Juvenile – fresh water	Juvenile – estuarine	Juvenile – marine	Adult – marine waters	Spawning – Freshwater only
Coho salmon	X	X	X	X	X	X
Chum salmon	X	X	X	X	X	X
Pink salmon	X	X	X	X	X	X
Chinook salmon*				X	X	
Sockeye salmon*				X	X	

* Both species are found only in Tongass Narrows within the project area; however, they do occur as freshwater eggs, larvae and juveniles in other freshwater streams in the Ketchikan area.

B. General Habitat Description of Tongass Narrows

Tongass Narrows is generally characterized by strong tidal currents and by steep bedrock or coarse gravel-cobble-boulder shoreline. Lower intertidal and shallow subtidal areas are often sandy or mixed gravel, sand, and shell, with varied amounts of silt. At other areas, however, such as at rocky points and along the northwestern shore of Pennock Island, bedrock slopes steeply to subtidal depths. Subtidal habitats, like those in the intertidal zone, are a mix of bedrock outcrops or ledges, boulder-cobble slopes and, where lower slopes permit, sandy gravel bottoms, often mixed with significant amounts of shell debris.

Several small natural coves and areas protected by constructed breakwaters provide wave and current protection for marine habitats with sand or gravel bottoms. Extensive areas of riprap bank protection and filling occur along the northeastern shoreline of the City of Ketchikan. Construction of numerous buildings on pilings over the intertidal and shallow subtidal zone has significantly modified the shorelines in these areas. Human-induced shoreline protection activities have similarly modified about a mile of the shoreline of Gravina Island in the vicinity of the airport and airport ferry terminal.

Fieldwork completed in the intertidal zone in January and July 2000 (HDR 2001) identified 136 plant and 151 animal taxa. In areas where natural coarse gravel-cobble-boulder, sand, mud, or mixed-fine shorelines occur, lower beaches contain diverse microhabitats providing prey for ground fish and salmonid species. Ground fish prey

include a variety of epibenthic crustaceans, especially amphipods and several crab and shrimp species, as well as infaunal clams, gastropods, and polychaete worms.

C. Ground Fish Species Descriptions

Specific descriptions of the non-salmonid species, some of which may be found within Tongass Narrows, and their life stages are included below. References to habitat locations indicate the following depth associations: inner (1-50 meters), middle (50-100 meters), and outer (100-200 meters) shelf regions, and upper (200-1000 meters) and lower (>1000 meters) slopes and basin (>3000 meters) (NMFS 1999).

- Arrowtooth Flounder
  Arrowtooth flounder spawn during December-February at depths of 100-360 meters (DiCosimo 2001). Pelagic (open seas) eggs and larvae inhabit all areas of the continental shelf, though predominantly inhabiting only the inner and middle shelf regions. Juveniles and adults are demersal (bottom dwelling) in gravel and muddy sand. Juveniles typically inhabit shallow areas until they are about 10 centimeters long. During winter, the flounder migrate to shelf margins and upper continental slopes to avoid cold temperatures (NPFMC 1998b).

- Dusky Rockfish
  Dusky rockfish adults are found along the outer shelf, upper slope, and nearshore waters of southeast Alaska, typically in areas with rocky shores at depths less than 50 meters. Juveniles inhabit inner and middle slopes. Preferred substrate for both adults and juveniles is gravel, cobble, or boulder. Juvenile dusky rockfish have been captured in nearshore eelgrass and kelp beds. Adults are semi-demersal/semi-pelagic (NPFMC 1998b).

- Pacific Cod
  Pacific cod are demersal and concentrate on the shelf edge and upper slope (100-200 meters) in the winter and spring where they overwinter and spawn from January through April and move to shallower waters (<100 meters) in the summer (DiCosimo 2001). They prefer mud, sandy mud, muddy sand, or sand in deep waters (Morrow 1980). Pacific cod eggs are found on the inner and middle continental shelf. Pacific cod larvae are epipelagic (zone where photosynthesis can occur) in the upper 45 meters of the ocean. Juveniles can be found in water 60-150 meters deep (NPFMC 1998b). Juvenile Pacific cod have been captured in nearshore eelgrass and kelp beds (NMFS 2003).

- Pacific Ocean Perch
  Adult Pacific Ocean perch are found along outer shelf and upper slope. They migrate into deeper water during fall and winter to spawn, and then move to shallower depths to feed during spring and summer. Juveniles are found in the inner, middle, and outer shelves, and upper slope. Larval stages are found in the same areas as juveniles plus in the lower slope and basin. Preferred habitat for

adults includes gravel, pebble, and cobble. Juveniles generally prefer the same habitats as adults, but will also use areas with boulders (DiCosimo 2001).

- Shortraker and Rougheye Rockfish
  Adults inhabit waters of the outer continental shelf and continental slope (DiCosimo 2001). Juveniles are found in the middle and outer shelves. Adults use habitats where mud, clay, silt, sand, gravel, pebble, cobble, boulder, and bedrock are present. The softer substrates (sand or mud) generally have the highest adult densities; hard substrates (bedrock, cobble or pebble) usually have the lowest densities. Habitats with steep slopes and frequent boulders are used more than habitats with gradual slopes and few boulders. Juveniles may occupy shallower habitats than adults (NPFMC 1998b).

- Sablefish
  Adults and late juveniles inhabit the deeper waters of the continental shelf, the slope, and the deep-water coastal fjords. Most adults are typically found in depths of 366–914 meters. Adult and late juvenile sablefish are pelagic and may be found in waters over any substrate (NPFMC 1998b). Spawning occurs in pelagic waters at a depth of 300–500 meters in the spring (McFarlane, 1997).

- Sculpin spp.
  Sculpins are bottom-dwelling fish that live in tide pools or in shallow or deep marine waters, and occasionally can be found in freshwater. Adults and late juveniles can be found in the middle shelf regions. Sculpins are known to use a wide range of habitats, including intertidal pools and all shelf habitats, e.g., mud, sand, gravel, etc. (NPFMC 1998b).

- Skates spp.
  Juvenile and adult skates can be found in the middle shelf regions. Skates are known to use a broad range of substrate types (mud, sand, gravel, and rock) and can typically be found in the lower portion of the water column (NPFMC 1998b).

- Walleye Pollock
  Both adults and eggs are found in the outer shelf regions. Walleye pollock and their eggs are pelagic; therefore, they may be sighted in waters over any substrate. All life stages of walleye pollock are known to use the Tongass Narrows as habitat. Pollock larvae are pelagic and inhabit the middle and outer continental shelf. Juvenile pollock inhabit the inner, middle, and outer continental shelf and oceanographic features like basins, fronts, and upwelling. Adults are semi-demersal (near the ocean surface to 200 meters). Adults congregate where food is concentrated in middle and outer continental shelf areas (NPFMC 1998b).

- Yelloweye Rockfish.
  Adults and juveniles are both found in the middle and outer shelves and upper slope. Habitat for both consists of bays, estuaries, and island passes. Both life stages are demersal, and are often found in areas with rock, coral, and cobble.

High concentrations of rockfish are found in areas with high relief containing refuge spaces such as overhangs, crevices, and caves (NPFMC 1998b).

D. Anadromous Fish Waterways Habitat Descriptions

Government Creek

Species

According to the ADF&G Anadromous Waters Catalog (ADF&G 1998), Government Creek (ADF&G No. 101-47-10400) provides habitat considered to be EFH for coho, chum, and pink salmon. The mouth of Government Creek provides spawning habitat for all three salmon species, and the headwaters provide rearing habitat for juveniles.

Habitat

In the project area, Government Creek enters Tongass Narrows through a shallow gravel-cobble-bottomed stream channel in a small V-shaped embayment. The stream channel bottom is covered with a dense growth of filamentous brown alga (*Pilayella littoralis).* Lower stream banks support dense rockweed; in muddy pockets adjacent to the stream, softshell clams (*Mya arenaria*) are abundant. Finer sediments at higher elevations (e.g., > +13 ft MLLW) have a well-developed saltmarsh grouping. Dominant plants in the lower saltmarsh are *Carex* sp*., Glaux* sp., and *Plantago* sp.; higher elevations have *Potentilla* sp*., Deschampsia* sp*.,* and *Juncus* sp. Higher areas with coarse sand and gravel, especially to the south toward East Clump Island, support patches of *Salicornia virginica* and a backshore grouping mixed with salt-tolerant grasses and herbs (HDR 2001).

Airport Creek

Species

According to the ADF&G Anadromous Waters Catalog (ADF&G 1998), Airport Creek (ADF&G No. 101-47-10450-2002 and No. 101-47-10450) provides spawning habitat for coho and pink salmon.

Habitat

In the project area, Airport Creek flows directly into a productive estuary of Tongass Narrows. Airport Creek consists of two channels that merge into one near the estuary. The upper intertidal area around the creek mouth consists of a relatively flat bench dominated at lower elevations by *Salicornia* and *Puccinellia.* At somewhat higher elevations, taller species such as the sedge *Carex,* velvet grass *Holcus lanata*, and tufted hairgrass *Deschampsia* dominate. Gravelly areas adjacent to the stream channel support patches of *Honkenya peploides*, and higher-elevation sand and gravel have a dense growth of dune grass.

The outer reaches of this estuary support eelgrass beds that provide habitat and food for juvenile salmon. Airport Creek consists of a shallow gravel-cobble-bottomed stream channel with small cascades. Areas farther upslope are characterized with a boulder-cobble bottom and steep banks. The riparian vegetation surrounding the creek consists of

Sitka spruce (*Picea sitchensis*) and cedar-hemlock *(Chamaecyparis* sp. and *Tsuga* sp.) forest with an open shrubby understory (HDR 2001).

Other Anadromous Fish Waterways

Species

According to the ADF&G Anadromous Waters Catalog (ADF&G 1998), two unnamed creeks (ADF&G No. 101-47-10380 and No. 101-47-10350) provide spawning habitat for coho salmon in the project area.

Habitat

The two unnamed creeks are each confined to a low flow, low gradient, narrow channel that flows directly into Tongass Narrows. The creeks are very narrow, ranging from 3 to 5 feet wide or less in most locations. The depths of the creeks vary from shallow (1 foot) to 2 to 3 feet in some locations. Both can be ephemeral in some locations, depending on rainfall. The creeks have overhanging banks that provide habitat for spawning salmon. The riparian vegetation surrounding the creek consists of Sitka spruce and cedar-hemlock forest with a shrubby understory (HDR 2001).

Salmonid Species Descriptions

- Coho Salmon
  The NMFS EFH web site (NMFS 2002) shows that coho salmon (*O. kisutch*) have EFH in all ADF&G anadromous streams that are crossed by the project and in Tongass Narrows. Coho salmon enter spawning streams from July to November, usually during periods of high runoff. The eggs hatch early in the spring, where the embryos remain in the gravel using the egg yolk until they emerge in May or June. Juvenile coho spend one to three winters in streams and may spend up to five winters in lakes before migrating to the sea as smolt (ADF&G 2002). Coastal streams, lakes, estuaries, and tributaries to large rivers all provide coho rearing habitat. Coho juveniles may also use brackish-water estuarine areas in summer and migrate upstream to fresh water to overwinter. They spend about 16 months at sea before returning to coastal areas and entering fresh water to spawn (NPFMC 1998).

- Chum Salmon
  The NMFS EFH web site (NMFS 2002) shows that chum salmon (*O. keta*) have EFH in Government Creek and Tongass Narrows. Chum salmon return to spawn as 2- to 7-year olds. Chum salmon fry, like pink salmon, do not overwinter in the streams but migrate out of the streams directly to the sea shortly after emergence (ADF&G 2002). This outmigration occurs between February and June, but most fry leave the streams during April and May. Chum salmon tend to linger and forage in the intertidal areas at the head of bays. Estuaries are important for chum salmon rearing during spring and summer. Chum salmon spawn between June and November in gravel in streams, side-channel sloughs, and intertidal portions of streams when the tide is below the spawning grounds (NPFMC 1998).

- Pink Salmon
  The NMFS EFH web site (NMFS 2002) shows that pink salmon (*O. gorbuscha*) have EFH in Government Creek, Airport Creek, and Tongass Narrows. Pink salmon are distinguished from other Pacific salmon by having a fixed two-year life span. Because of the life span, pink salmon spawning in a particular river system in odd and even years are reproductively isolated from each other and have developed into genetically different lines (NPFMC 1998). Adult pink salmon enter spawning streams between late June and mid-October. They spawn within a few miles of the coast, and spawning within the intertidal zone or the mouth of streams is very common. Shallow riffles where flowing water breaks over coarse gravel or cobble-size rock and the downstream ends of pools are favored spawning areas. The eggs hatch in early to mid-winter and the fry swim up out of the gravel and migrate downstream into salt water by late winter or spring (ADF&G 2002).

- Chinook Salmon
  The NMFS EFH web site (NMFS 2002) shows that chinook salmon (*O. tshawytscha*) have EFH in Tongass Narrows, but not in any of the creeks or streams in the project area. Adult chinook salmon are found over a broad geographic range, encompassing different ecotypes and very diverse habitats in Southeast Alaska. Chinook salmon generally spawn from mid-June to mid-August in waters ranging from a few centimeters deep to several meters deep. Eggs hatch in the late winter or early spring and juveniles typically remain in freshwater for at least one year before migrating to the ocean in the springtime (ADF&G 2002). Chinook salmon spend one to six years at sea before they return to freshwater streams to spawn (NPFMC 1998). Adults return to spawning streams from July through September (Morrow 1980).

- Sockeye Salmon
  The NMFS EFH web site (NMFS 2002) shows that sockeye salmon (*O. nerka)* have EFH in Tongass Narrows, but not in any of the creeks or streams in the project area. Sockeye salmon exhibit a greater variety of life history patterns than other Pacific salmon, and are known to use lake-rearing habitats in the juvenile stages (NPFMC 1998). Sockeye salmon generally spawn in late summer and autumn. They use a wide variety of spawning habitats such as rivers, streams, and upwelling areas along lake beaches. Eggs hatch during the winter and the young salmon move into the rearing areas. In systems with lakes, juveniles usually spend one to three years in fresh water before migrating to the ocean in the spring as smolts. However, in systems without lakes, many juveniles migrate to the ocean soon after emerging from the gravel (ADF&G 2002).

4.0 Project Impacts and Conclusions

Project Impacts

Construction activities within coastal watersheds and in coastal marine areas will impact EFH. These activities may adversely impact marine resources directly and indirectly through habitat loss and/or modification. Other impacts that may occur as a result of the proposed project include the following: runoff from roadways, increased human access (e.g., for fishing), and cumulative development of shoreline property. Locations and descriptions of the anadromous fish stream crossings, by alternative, are shown in Figure 1. Individual waterway impacts by the proposed project alternatives are described below.

A. Tongass Narrows

General Impacts

All project alternatives would require placement of either bridge pier footings or pilings for ferry facilities in shallower waters (e.g., shallower than –50 feet MLLW) near the shoreline of Tongass Narrows. Table 4-1 shows the required number of piers, water body crossings, and amount of roadway fill for Tongass Narrows for each alternative. Given the small area that would be required for bridge or pier pilings, the effects on EFH are minor. Minor fish kills could result from driving large diameter steel piles into hard sediments with an impact hammer. Refer to Table 1-1 for impacts to EFH by alternative for bridge or pier construction.

There would be some permanent loss of eelgrass beds from placement of fill in Tongass Narrows. Pier footings and the bridge structures could slow the growth of eelgrass beds by shading, which indirectly would negatively impact EFH. In addition, Alternatives C3(a/b), C4, D1, G2, and G4 would require placement of fill materials in intertidal and subtidal areas of Tongass Narrows. Placement of fill would result in a direct loss of EFH in Tongass Narrows.

Table 4-1 shows water body crossings, piers, and roadway fill impacts to Tongass Narrows from bridge or pier construction.

TABLE 4-1
POTENTIAL WATER BODY MODIFICATIONS

	C3(a)	*C3(b)*	*C4*	*D1*	*F1, F3*	*G2, G3*	*G4*
Water Body Crossings[1] (Number)	9	10	9	9	15	9	0
Piers in Tongass Narrows (Number)	5	7	5	6	7	0	0
Roadway Fill in Tongass Narrows (Cubic Feet)	1,100	2,000	1,100	0	0	0	0
Ferry Terminal Fill in Tongass Narrows[2] (Cubic Feet)	*	*	*	*	0	*	*

[1] Number of crossings does not include Tongass Narrows.

[*] In-water work; quantities unknown at this time.

Impacts of Pier Construction and Channel Modification

In-water blasting might be necessary for all alternatives to prepare the foundations for in-water piers or pilings for bridge and ferry alternatives. This blasting would last 2-3 days and have localized impacts that would be of minimal significance in relation to the large areas of similar habitats available in Tongass Narrows. The type of charges that would be used for blasting includes tovak and an-fo, which are common charges used in wet weather and underwater blasting. The amount of explosives needed to generate 1 ton of rock would be approximately 1 pound of explosives. Shock waves from blasting can be expected to travel up to a couple miles depending on the topography of the area. In addition, underwater blasting can be expected to cause heavy mortalities of fish within 100 meters, with lesser numbers of fish killed with greater distances. The confined nature and rocky shorelines of the West Channel may focus, rather than dissipate acoustic energy, extending the area of impact up and down the channel (Houghton and Monday 1987).

Alternative F3 could require modification to West Channel to improve navigation under that alternative (see Figure 3). This would widen the channel and modify the localized nearshore tidal flow regime slightly, but would not affect overall flow though West Channel. Channel modification would require the removal of approximately 63,000 cubic yards of "surficial sediment" material, which would be removed by dredging (not blasting), and 16,100 cubic yards of bedrock, which would require blasting to be removed. Disposal of dredged and blasted material would follow the Environmental Protection Agency's (EPA) Guidelines for disposing of dredged and blasted material (40 CFR Parts 220-238) (Ocean Dumping) and would be consistent with the regulations of Clean Water Act (CWA) Section 404(b)(1) [disposal of dredged materials into waters of the U.S.] and Marine Protection, Research, and Sanctuaries Act (MPRSA) Section 102. The disposal would be an "open water" ocean disposal and would require the locations to be pre-approved by the EPA. Use of "open water" ocean disposal may involve covering of existing benthic populations and the loss of them as food supply to ground fish and salmon species.

The channel widening would require removal of an outcropping that is approximately 2,000 feet long and 550 to 750 feet wide located in water ranging from –10 to –40 MLLW (Figure 2). The channel widening would consist of a combination of drilling,

blasting, and dredging activities. The duration of these activities would be 1 to 3 months. Channel modification work would occur up to seven days a week with almost continuous disturbance from dredging and intermittent disturbance from blasting. Blasting and dredging in the West Channel would remove approximately 14 surface acres of subtidal habitat from areas adjacent to Gravina and Pennock Islands. This action would eliminate approximately 0.50 acres of *Laminaria*, 0.03 acres of eelgrass beds and 0.75 acres of sea cucumbers (*Parastichopus* spp.) in the immediate area (Figure 4).

Eelgrass is typically found to –20 feet MLLW in southeast Alaska, and kelp to – 60 feet MLLW (NMFS 2003). It is unlikely that these communities would reestablish in the deeper depths that would result from the channel widening. Newly exposed soil and rock surfaces would be recolonized over a period of several years. Newly exposed lower rock at depths from the lower intertidal zone to about –20 feet MLLW would be recolonized by epibenthic biota similar to that seen at low tide levels on the existing west shore including red algae, kelp, and a variety of other small species. Subtidal rock will be colonized by a wide variety of invertebrates such as coral (*Balanophyllia elegans*), erect bryozoans (*Dendrobenia lichenoides*), scallop (*Chalmys hasata*), gastropods (*Scabrotrophon maltzani* and *Trichotropus cancellata*), white limpet (*Acmaea mitra*), sea peach (*Halocynthia auranthium*), and several other hydroids and bryozoans. A variety of red algae are expected to form an understory and large *Laminaria* species are expected to form an overstory. Bull kelp will recolonize at depths down to about –20 to –25 feet MLLW (HDR 2001). Red algae will form the deepest zone and may extend to –50 feet MLLW. Pockets of newly exposed sediment, and sediment that accumulates in rock crevices will be colonized by an infauna composed of a variety of polychaetes, crustaceans, bivalves, echinoderms, and other taxa (Jon Houghton, Pentec, pers. Communication to Sirena Brownlee, HDR 2003). Because of the loss of some shallow water habitats, especially on the southwest side of the channel, overall productivity in the area would be less than current productivity in the existing shallower areas.

Temporary Impacts

Underwater drilling and blasting activities would generate noise and vibration in the area. In addition, fine silts would be generated, but these would be quickly carried downstream by the strong tidal current. Dredging would create turbidity plumes. The distance the turbidity plume moves from the point of origin is dependent upon tides, currents, nature of the substrate, and other factors. However, this effect would be a local temporary effect and would not create a long-term net effect to salmon or other marine species. Because of the strong tidal currents in the channel, intermittent discharges of waterborne sediments, especially when released into deeper waters offshore, are likely quickly dissipated with minimal effect on biota. The dredging activities would occur at depths of water such that no intertidal or estuarine areas would be directly affected. Any adult or juvenile fish using the West Channel during this stage of construction could be adversely affected by the blasting and dredging, by direct mortality, damage from sound pressures released into the water, or entrainment in dredging equipment.

Temporary impacts on EFH during construction activities would result from increased turbidity and suspended sediment. However, strong currents in the intertidal areas of Tongass Narrows would quickly dissipate waterborne sediment. Vibration and noise from dredging operations may displace or otherwise harass both salmon and ground fish species in the Narrows. However, the areas being dredged are small relative to the cross section of the Narrows. Other construction impacts would be temporary, minimized, and mitigated by measures specified in Section 5.0. It is expected that construction activities in Tongass Narrows would last for approximately two to three years. During this time, barges would be present in the Narrows.

B. Government Creek

All project alternatives would cross Government Creek. Alternatives F1, F3 and G3 would require a two-span bridge crossing at Government Creek. No loss of EFH would occur by the placement of a bridge over the creek. A temporary impact to EFH from in-water construction activities would be an increase in turbidity. Impacts to EFH would be minimized through implementation of Best Management Practices (BMPs). Alternatives C3(a/b), C4, D1, G2, G3, and G4 would require placement of fill in the edge of the estuary in the lowermost segment of Government Creek. No quantities of fill have been established at this point. A direct loss of EFH would occur at this location (see Table 1-1 for impacts to EFH by project alternative).

C. Airport Creek

All project alternatives would cross Airport Creek. All alternatives would require two single-span bridge crossings, one over each channel of Airport Creek. No loss of EFH would occur by the placement of bridges over the creek. No fill would be required in Airport Creek because a clear span bridge would be used and bridge abutments would be above stream floodplains. A temporary impact to EFH from in-water construction activities would be an increase in turbidity. Impacts to EFH would be minimized through implementation of BMPs.

D. Other Anadromous Waterways

Alternatives F1 and F3 would require a bridge crossing and a culvert crossing at two unnamed anadromous fish streams southeast of Government Creek. The culvert crossing would create a direct loss of EFH. However, the culvert crossing would be designed to maintain natural flow and existing fish passage would not be altered. The bridge crossing would not create a loss of EFH. No fill would be required because a clear span bridge would be used and bridge abutments would be above stream floodplains. Fill would be required for the culvert crossing. The culvert would be designed to minimize impacts on stream functions and to provide fish passage. Impacts to EFH would be minimized through implementation of BMPs.

Cumulative Effects

Cumulative effects are defined as “those effects of future State or private activities, not involving Federal activities, that are reasonably certain to occur within the area of the Federal action subject to consultation” (50 CFR 402.02).

The Gravina Access Project alternatives, when considered with past, present, and other future actions, would have a cumulative effect on EFH. Existing development, coupled with future actions (improvements to the airport, the Gravina Island timber sale, the road north of the airport, and widely dispersed residential and commercial development) would further impact fish species and habitat in Tongass Narrows as a result of direct disturbance during construction, long-term use of the lands, and the improved access to and increased human activity in the Tongass Narrows. Roadways, and clearing and filling for residential, commercial, and resource (timber) development, would lead to the diversion of small streams into culverts, channelization of flows, and increased runoff intensity that could alter natural stream dynamics. This would potentially affect EFH associated with tributaries to Vallenar Bay and Bostwick Inlet, and important marine habitat at Vallenar Bay and Bostwick Inlet.

Pollutant sources associated with foreseeable development include untreated runoff from bridges, ferry emissions, roadway runoff, runoff and pollutant spills associated with industrial (including timber) and commercial development, runoff and pollutants produced by residential development, erosion resulting from land clearing and altered stream hydrology, and increased human activity on currently inaccessible lands.

5.0 Conservation Measures

Construction of this project will require an ADF&G Title 16 Permit and a U.S. Army Corps of Engineers Permit for fill in wetlands and waters of the United States. Coordination with NMFS has been ongoing during the planning of this project. The following conservation measures will be incorporated to avoid, minimize, and mitigate impacts to EFH. These are general measures that will be modified to specifically address details of the preferred alternative.

- At all stream crossings (both culverts and bridge crossings), stream banks would be re-contoured to approximate original conditions and re-seeded with native vegetation to minimize erosion.

- BMPs, developed in accordance with EPA's "Storm Water Management for Construction Activities: Developing Pollution and Prevention Plans and Best Management Practices," EPA Document 832 R-92-005 (EPA 1992), will be employed to minimize the introduction of sediment and siltation of ponds and streams during adjacent fill placement.

- All anadromous fish stream crossings would be designed to minimize impacts on stream function and to provide passage to both anadromous and resident fish. All road structures crossing fish habitat channels would be designed to provide passage for juvenile and adult salmon as per ADF&G Title 16 standards.

- All construction in and around anadromous fish streams will take place when stream disturbances would have the least impact on anadromous fish species. For the Ketchikan area, salmon fry emerge in the spring from mid-April to June. The recommended time period for in-stream work is June 15 to August 7. The recommended time period for in-water work for Tongass Narrows is July 1 to February 28 (Gustafson, 2002). In-water work areas, except for stream crossings by construction equipment, will be isolated from flowing waters of all anadromous fish streams.

- The contractor will be required to prepare a blasting plan prior to any blasting activities. The blasting plan will need to be reviewed by NMFS for both EFH and marine mammal impacts. A pre-blasting survey will be required to ensure that no fish schools are in the vicinity of the blasting area. If fish schools are detected, blasting will be delayed until they leave. A biologist will check the area and record any kills that are within 100 feet up current and 300 feet down current of the blast area after blasting is completed. Measures such as covering the rock to be blasted with sand, or deployment of a bubble curtain, may be used to dampen blast impact. In-water blasting shall avoid the entire months of mid-April through June to avoid juvenile salmonids and the period from June through November 1 to avoid adult salmon. All project-related activities would conform to the pertinent provisions of the Marine Mammal Protection Act and the Endangered Species Act.

- All staging, fueling, and servicing operations will be conducted at least 100 feet away from all streams and wetlands.

- All necessary permits and agency approvals will be obtained prior to construction, and any permit stipulations will be incorporated into the contract specifications.

- Perimeter staking will be required on the outside of the disturbance area prior to construction to ensure that there is no additional impact from construction activities.

- Silt fences will be used adjacent to EFH stream channels, just beyond the estimated toe of fill.

- Gravels and streambed material will be used in the bottoms of culverts.

- Riprap will be placed along stream banks as necessary to maintain stream bank integrity. Placement of riprap along stream banks to maintain stream bank integrity should include the use of bioengineering techniques to improve habitat value of the riprap, by incorporation of willow stakes or other locally available vegetation.

In addition to the conservation measures listed above, more specific requirements may result from the permit process for the preferred alternative, should a build alternative be selected. By design, the permit stipulations will protect the known fish resources in the project area and will protect EFH areas.

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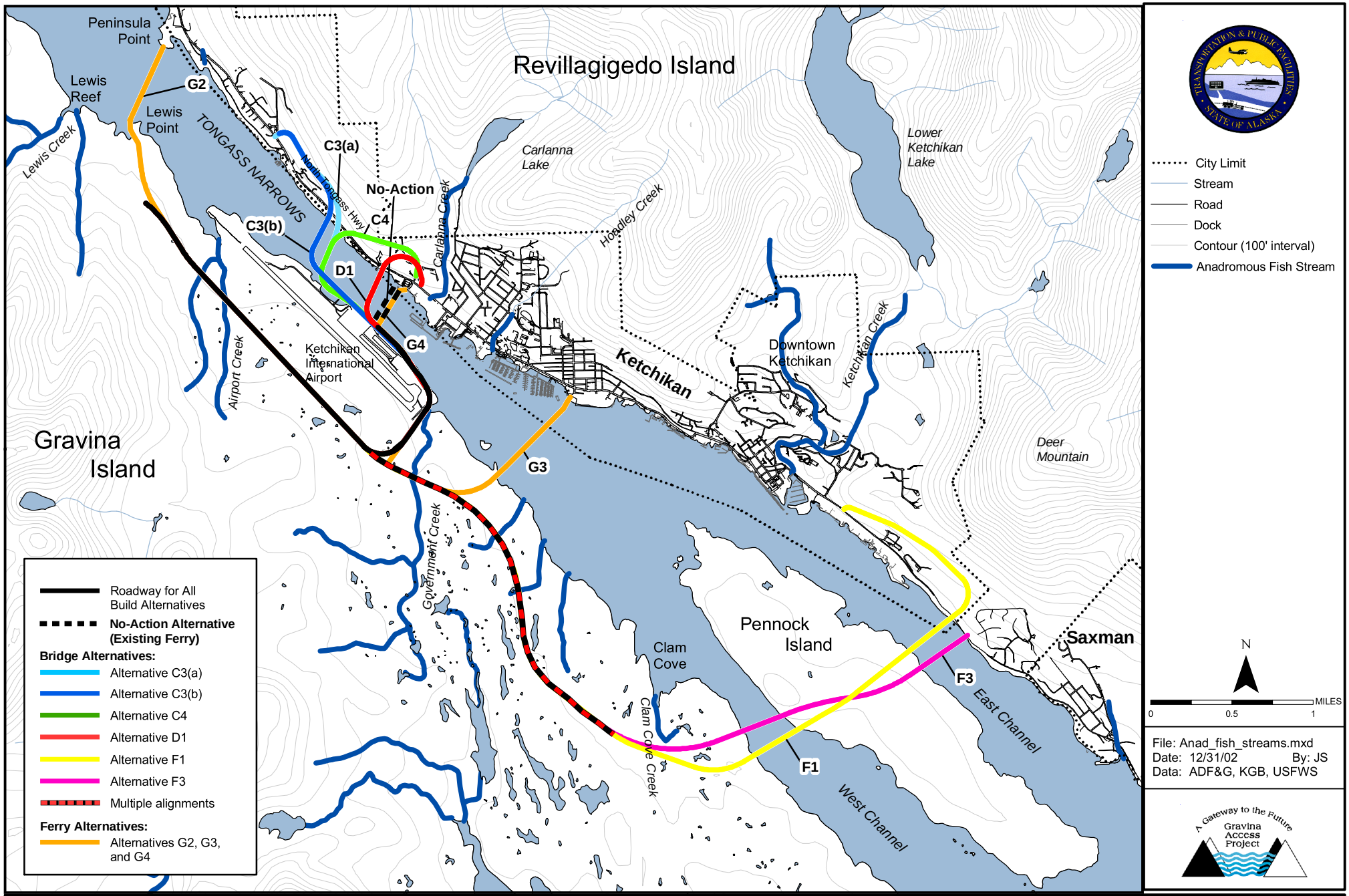
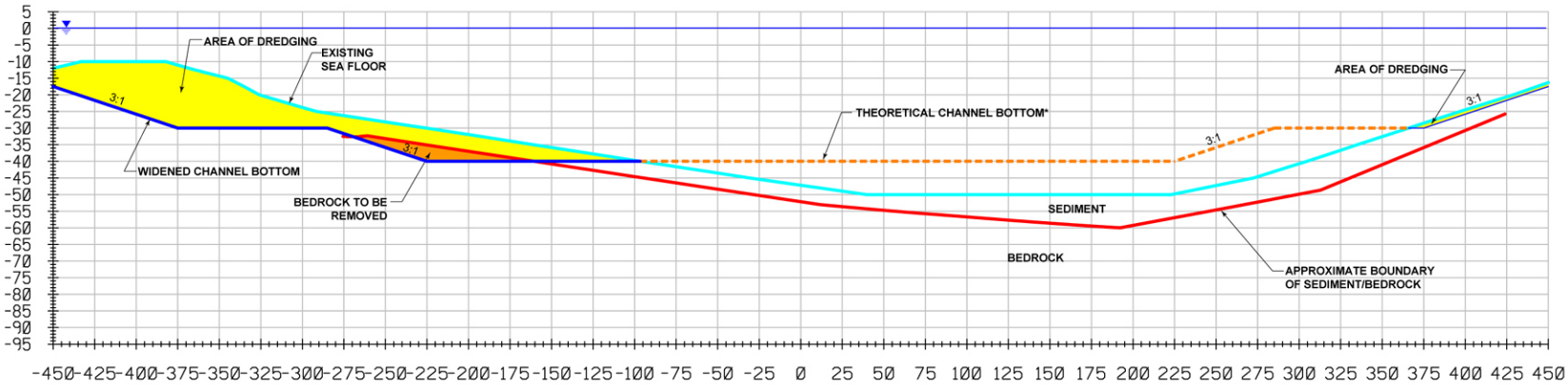


December 2002
Gravina Access Project

Figure 1
Potential EFH Impacts



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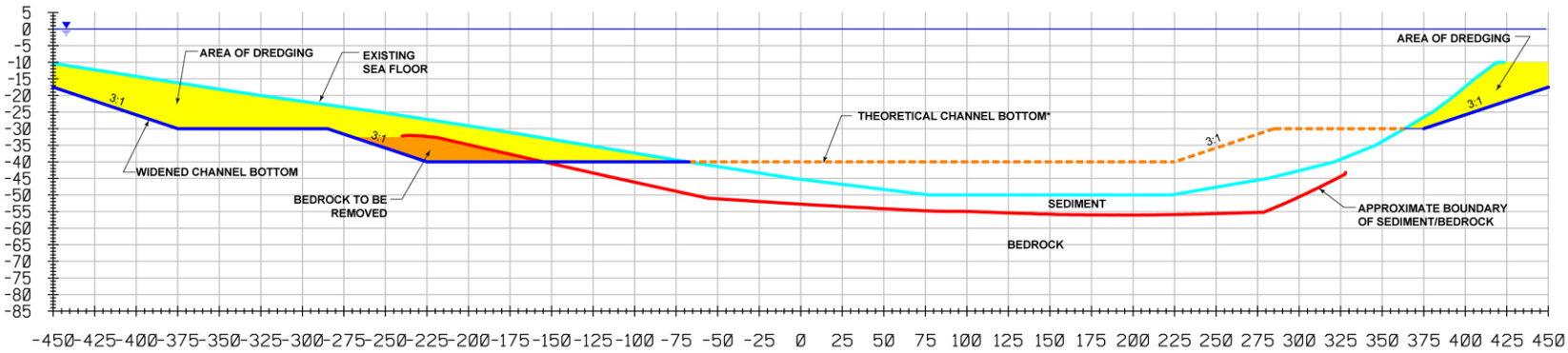

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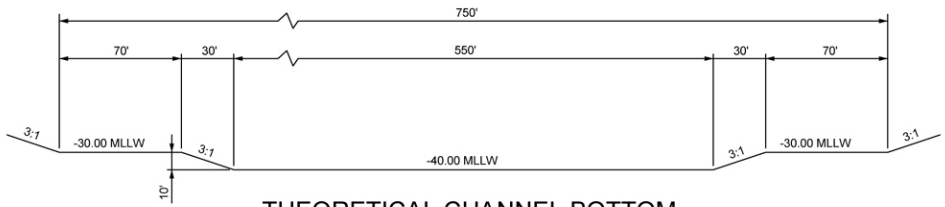


THEORETICAL CHANNEL BOTTOM

NOT TO SCALE

*Theoretical channel bottom configuration is based on a modeled, minimum section which provides adequate draft for 2-way cruise ship traffic.

- Theoretical Channel Bottom
- Existing Sea Floor
- Approximate Boundary of Sediment/Bedrock
- Widened Channel Bottom
- Bedrock To Be Removed
- Area of Dredging

A Gateway to the Future
Gravina Access Project

Figure 2
Alternative F3, West Channel Widening Cross Sections

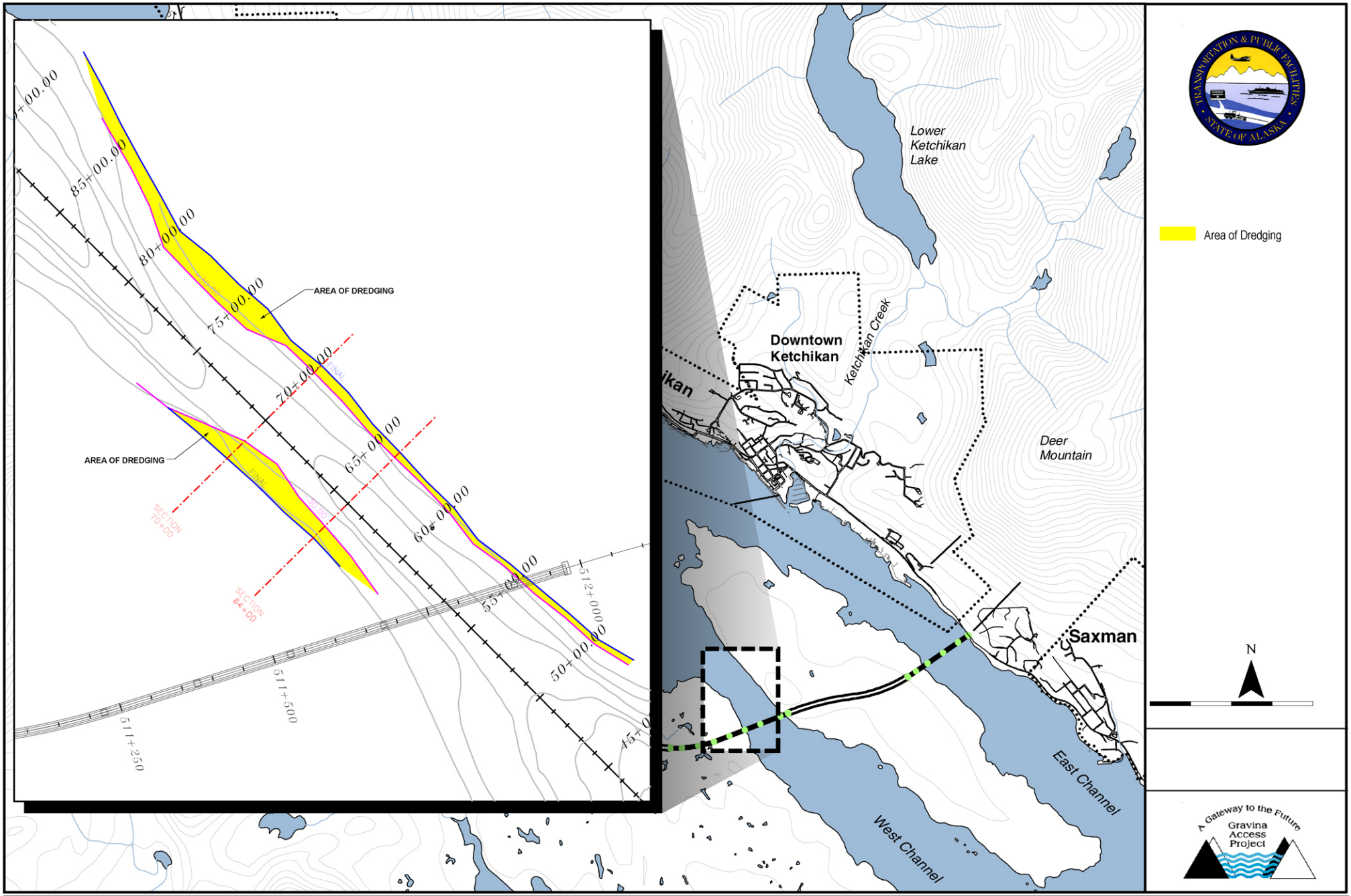
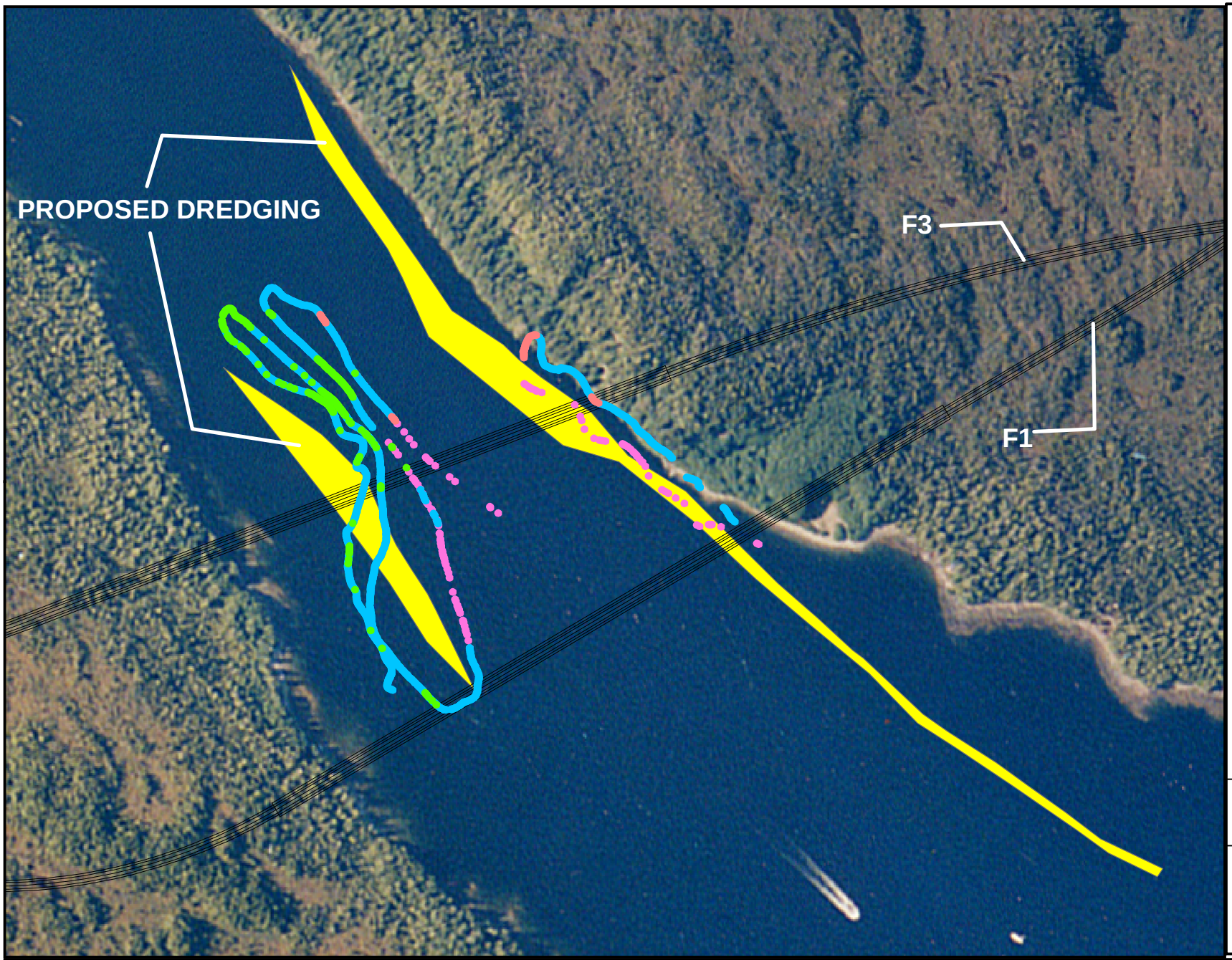


Figure 3
Alternative F3, West Channel Widening



LEGEND

- Proposed Dredging
- Algae
- Bullkelp
- Sea Cucumber
- Eelgrass Bed
- Laminaria

N

File: EFH_dredging.mxd
Date: 05/2003 By: JS
Data: HDR, KGB

A Gateway to the Future
Gravina Access Project

May 2003
Gravina Access Project

Figure 4
Proposed Dredging Locations

APPENDIX A

ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
AND
NATIONAL MARINE FISHERIES SERVICE
ESSENTIAL FISH HABITAT: ALASKA AGREEMENT FOR EAs AND EISs

Consultation with National Marine Fisheries Service(NMFS) on Essential Fish Habitat(EFH).

1. Alaska Department of Transportation & Public Facilities (ADOT&PF), in accord with 50 CFR 600.920(c) will be the designated representative of the Federal Highway Administration(FHWA) in the consultation process. The FHWA remains ultimately responsible for compliance.

2. The consultation process for projects requiring an environmental assessment or an environmental impact statement will be accomplished under the existing NEPA/404 merger Agreement process.

3. As part of the initial scoping letter to NMFS, ADOT&PF will identify possible EFH resources and will request additional information as appropriate.

4. ADOT&PF, in concert with FHWA, will determine if the project may adversely effect EFH.

5. ADOT&PF will notify NMFS that a project may adversely effect EFH and will initiate discussion on possible conservation measures.

6. An EFH assessment will be incorporated in the NEPA document as part of the fish and wildlife section of the environmental consequences, and will be titled or co-titled as such.

7. ADOT&PF will provide NMFS the draft EA or pre-DEIS including the draft EFH assessment for their review and comment. NMFS will respond as appropriate including, preliminary EFH conservation recommendations. If NMFS believes that the proposed action may result in substantial adverse effects on EFH, or that additional analysis is needed to accurately assess the effects of the proposed action, NMFS will request that FHWA initiate expanded consultation.

8. ADOT&PF will revise, amend the EFH assessment as appropriate based on comments and necessary additional coordination with NMFS.

9. Transmittal of the approved EA or DEIS to NMFS will be considered "Submittal of the EFH Assessment" under 50 CFR 600.920(h)(3).

   The EFH assessment, as outlined in 600.920(g), must contain the following: 1) a description of the proposed action; 2) an analysis of individual and cumulative effects of the action on EFH, the managed species, and associated species such as major prey species, including affected life history stages; 3) the agency's views regarding effects on EFH; and 4) a discussion of proposed mitigation, if applicable. Additional information which may be appropriate to include in the EFH assessment is listed in 50 CFR 600.920(g)(3).

10. NMFS will respond, in writing, as to whether it concurs with the findings of the EFH assessment as part of their formal comments on the document. If applicable, final EFH conservation recommendations may be included.

11. If necessary, additional coordination to resolve concurrence issues will be initiated. As applicable, ADOT&PF will respond, in writing, within 30 days with respect to conservation recommendations.

    The response must include a description of measures proposed for avoiding, mitigating, or offsetting the impacts of the project on EFH, as required by 50 CFR 600.920(j). If the response is inconsistent with NMFS Conservation Recommendations the reasons for not following the recommendations must be explained, including the scientific justification for any disagreements with NMFS over the anticipated effects of the project or measures needed to avoid, minimize, mitigate or offset such effects.

12. The FONSI or FEIS will address NMFS response to the transmittal.

The steps outlined above address the abbreviated consultation procedures described in 50 CFR 600.920(h). If at any point in the process it is determined that the project would result in substantial adverse effects to EFH or that additional information/analysis is needed, expanded consultation procedures will be implemented. A party may request expanded consultation at any point in the process. The parties will determine how best to implement expanded consultation based on the specifics of the project. It is recognized that additional information may be required, that a site visit will be necessary and that conservation recommendations will need to be addressed. However, to the extent practical, existing NEPA/404 Agreement procedures will be utilized to fulfill the requirements of expanded consultation.

In order to provide a reference to the sequence of activities outlined in this document to the NEPA/404 Agreement, the concurrence points are identified. Concurrence on purpose & need would be requested concurrent with or just after item 3. Concurrence on range of alternatives (preferred alternative for EAs) would be requested before or concurrent with item 5. Request for concurrence in the preferred alternative would occur before or concurrent with item 11.

Dispute Resolution

If an FHWA decision is inconsistent with NMFS EFH Conservation Recommendations, 50 CFR 600.920(j)(2) allows the NOAA Assistant Administrator for Fisheries to request a meeting with the head of the FHWA to discuss the proposed action and opportunities for resolving any disagreements. NMFS will endeavor to resolve any such issues at the field level wherever possible, typically in a meeting between the NMFS Regional Administrator and The FHWA Division Administrator.

APPENDIX B

LETTERS FROM NATIONAL MARINE FISHERIES SERVICE REGARDING ESSENTIAL FISH HABITAT

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Marine Fisheries Service
P.O. Box 21668
Juneau, Alaska 99802-1668

October 13, 1999

Al Steininger, P.E.
Project Manager
State of Alaska
Department of Transportation
and Public Facilities
Design and Engineering Services Division
Southeast Region - Design
6860 Glacier Highway
Juneau, Alaska 99801-7999

RE: Gravina Access Project - Agency Scoping Comments

Dear Mr. Steininger:

Thank you for soliciting scoping comments on the referenced project. The purpose of the project is to provide better access between the Ketchikan airport and the city of Ketchikan. Alternatives were discussed at the September 27 scoping meeting held in Juneau and include enhanced ferry service, an underground tunnel, and a bridge, the location of which will be considered at a number of locations. The National Marine Fisheries Service (NMFS) has the responsibility to comment on impacts to living marine resources under our jurisdiction including anadromous fish, marine fish and invertebrates and marine mammals. Accordingly, we would favor those project alternatives and designs that minimize direct, indirect and cumulative impacts to anadromous fish streams, wetlands, intertidal areas, submerged aquatic vegetation, marine habitats, and the relevant species using them.

Mark Dalton of HDR consulting has met separately with Steve Brockmann of the U.S. Fish and Wildlife Service and Jack Gustafson of the Alaska Department of Fish and Game, and provided us with a summary of resource issues provided at that meeting. Of the issues listed, the NMFS is also concerned with numbers 1, 3, 4, 5, 6, 9, 10, 11, 12, 13, 16, 17, 19, 20, and 24. Rather than re-state these issues, we are providing additional comment as follows.

Of the issues listed above, numbers 4,5 and 6 address the presence of marine mammals in Tongass Narrows and suggest that additional studies may be necessary. We concur with this recommendation, as any in-water work that generates underwater noise will need to be evaluated for its potential to disturb marine mammals that may be present (as well as migrating juvenile salmonids and spawning herring). Enclosed is a draft copy of a report for the marine mammal observation program implemented aboard some of the ferries of the Alaska Marine Highway System. Sightings collected through this program show humpback whale, killer whale and Pacific white-sided dolphin sightings in the northern area of Tongass Narrows, and/or the confluence of Tongass Narrows, Clarence Strait and Behm Canal. The humpback whale and Steller sea lion are listed as endangered and threatened species, respectively. Depending on the magnitude of impact to these species, it may be necessary to satisfy consultation requirements of the Endangered Species Act with the responsible Federal agency, the Federal Highway Administration.

The environmental impact statement (EIS) for the project will need to address the essential fish habitat (EFH) requirements of the Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA). The EIS should include an assessment of the impacts of the proposed action on EFH in a chapter or section titled "Essential Fish Habitat". The EFH assessment should include 1) a description of the proposed action; 2) an analysis of individual and cumulative effects of the action on EFH, the managed species, and associated species such as major prey species, including affected life history stages; 3) the responsible Federal agency's views regarding the effects of the action on EFH; and 4) a discussion of any proposed mitigation, if applicable.

Upon receipt of the EFH assessment, NMFS will provide back to the Federal agency or their representative, any EFH conservation recommendations, as appropriate, if we believe the project would adversely affect EFH. In order to develop these conservation recommendations, whenever possible, at least 60 days notice prior to a final decision on an action, or 90 days if the action would result in a substantial adverse impact to EFH. Upon receipt of NMFS conservation recommendations, the Federal agency is required to respond in writing to NMFS within 30 days.

EFH Assessment Information:

To assist you in developing an EFH assessment, we have identified EFH in the general vicinity of the current ferry between the airport and the city of Ketchikan. This list would need to be verified for specific project sites, but is likely to be similar, if not identical. Specific information on habitat for salmon should be obtained from the Alaska Department of Fish and Game

and U.S. Fish and Wildlife Service in Ketchikan. EFH for all five species of Pacific salmon (chinook, coho, chum sockeye, pink) is present in the project area.

Following are habitat characteristics for the non-salmonid species of EFH. References to habitat locations indicate the following depth associations; inner (1-50 meters) and middle (50-100 meters)and outer (100-200 meters) shelf regions and upper (200-1000m) and lower (>1000m) slopes and basin (>3000m).

Pacific Ocean Perch Adults and Late Juveniles:

Adults found in outer shelf and upper slope. Juveniles found in inner, middle, and outer shelves, and upper slope. Larval stages found in same as juveniles plus lower slope and basin. Adult substrates are gravel, pebble, and cobble, juvenile substrates are the same as adults plus boulders.

Yelloweye Rockfish Adults and Late Juveniles:

Adults and juveniles are both found in the middle and outer shelves and upper slope. Habitat for both is bays, estuaries, and island passes. Both life stages are demersal. Found in substrate areas of rock, coral and cobble. High concentrations are found associated with high relief containing refuge spaces such as overhangs, crevices and caves. Feeding areas are those containing fish, shrimp and crab.

Shortraker and Rougheye Rockfish Adults and late Juveniles:

Adults occur in outer shelf and upper slope, in depths from 25 to 875 m and are semi-demersal. Juveniles are found in the middle and outer shelves. Adults found over all substrates including mud, clay, silt, sand, gravel, pebble, cobble, boulder and bedrock. However, from submersible observations, soft substrates of sand or mud usually had the highest densities; whereas hard substrates of bedrock, cobble or pebble usually had the lowest adult densities. Habitats with steep slopes and frequent boulders were used at a higher rate than habitats with gradual slopes and few boulders. It is suspected that juveniles occupy shallower habitats than adults.

Dusky Rockfish Adults and Late Juveniles:

Adults found in outer shelf, upper slope and nearshore waters of Southeast Alaska along rocky shores at depths less than 50m. Juveniles found in inner (1-50m) and middle (50-100m) slopes. Substrates for adults and juveniles is gravel, cobble, boulder. Juvenile dusky rockfish have also been captured in nearshore eelgrass and kelp beds. Adults are semi-demersal/semi-pelagic.

Walleye Pollock Adults and Eggs:

Both adults and eggs occur in outer shelf. Walleye pollock and their eggs are pelagic, therefore they may occur in waters over any substrate.

Sablefish Adults and Late Juveniles:

Adults and late juveniles occur in the upper and lower slopes. Adult and late juvenile sablefish are pelagic and may occur in waters over any substrate.

Pacific Cod Adults and Late Juveniles:

Occur in both inner and middle shelf regions. Both life stages are demersal. Adults occur from the shoreline to 500m, juveniles from 60-150m. Preferred substrate is soft sediment, from mud and clay to sand.

Arrowtooth Flounder Adults and Late Juveniles:

Occur in both inner and middle shelf regions. Both life stages are demersal. Juveniles inhabit shallow areas until about 10 cm in length. Widespread distribution mainly on middle and out portions of shelf. Wintertime migration to shelf margin and upper continental slope to avoid cold temperatures.

Sculpin spp. Adults and Late Juveniles:

Occur in both inner and middle shelf regions. Both life stages are demersal. Broad range of habitats from intertidal pools, and all shelf substrates (mud, sand, gravel, etc.).

Skates spp. Adults and Late Juveniles:

Occur in middle shelf regions. Both life stages are demersal. Broad range of substrate types (mud, sand, gravel, and rock) and the lower portion of the water column.

Thank you for the opportunity to comment. We look forward to continued coordination for this project. If you have any further concerns or questions please contact Linda Shaw at (907) 586-7510.

Sincerely,

P. Michael Payne
Assistant Regional
Administrator
for Habitat Conservation

cc: EPA Anchorage (Mark Jen)
ADEC, AADGC, ADNR, Juneau
ADF&G, USFWS, Ketchikan

STATE OF ALASKA

FRANK H. MURKOWSKI, GOVERNOR

6860 GLACIER HIGHWAY
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TEXT: (907) 465-4647
FAX: (907) 466-4414

DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

DESIGN & ENGINEERING SERVICES DIVISION
SOUTHEAST REGION - DESIGN

February 21, 2003

Linda Shaw
National Marine Fisheries Service
P.O. Box 21668
Juneau, Alaska 99802-1668

Re: Draft Essential Fish Habitat Assessment
Gravina Access Project #67698 / ACHP-0922(5)

Dear Ms. Shaw:

The Alaska Department of Transportation and Public Facilities (DOT&PF), in cooperation with the Federal Highway Administration, is preparing a Draft Environmental Impact Statement (DEIS) to assess impacts of the proposed Gravina Access Project located in Ketchikan. DOT&PF has hired HDR Alaska, Inc., to complete the EIS studies. Planning has been underway since 1999 with preliminary engineering and public and agency scoping. A draft EIS is anticipated in Spring 2003.

The proposed project corridor is located between Gravina Island and Revillagigedo Island in the Ketchikan Gateway Borough. The two islands are separated by Tongass Narrows, a 13-mile-long waterway that varies in width from approximately ¼ to 1 mile. As shown on Figure 1 of the attached draft Essential Fish Habitat (EFH) assessment, six bridge alternatives and three ferry alternatives are reasonable alternatives evaluated in the DEIS.

In accordance with the EFH requirements of the Magnuson-Stevens Fishery Conservation and Management Act, we present an EFH assessment with the following information: (1) a description of the proposed action, (2) an analysis of the effects on EFH, (3) the effects of the action on EFH, and (4) proposed mitigation.

We have determined that all of the project alternatives may adversely affect EFH, as established by the 1996 reauthorization of the Magnuson-Stevens Fishery Conservation and Management Act and the Department of Commerce's EFH consultation regulations. We request your review of the enclosed draft EFH Assessment. I would appreciate your comments on the draft assessment and any recommendations and/or proposed conservation measures you may have at this time.

Based on your comments and recommendations, we will revise the draft assessment and include it in the Draft EIS for your official review per the January 7, 2000 agreement between FHWA and NMFS.

If you have any questions regarding this request, please do not hesitate to contact me at 907/465-4498 or our Consultant Project Manager, Mark Dalton, at 907/274-2000.

Sincerely,

Reuben Yost
Regional Environmental Coordinator

Copies:

Roger Healy, ADOT&PF
Mark Dalton, HDR
Tim Haugh, FHWA

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Marine Fisheries Service
P.O. Box 21668
Juneau, Alaska 99802-1668

March 14, 2003

Mr. Reuben Yost
Regional Environmental Coordinator
Alaska Department of Transportation
and Public Facilities
6860 Glacier Highway
Juneau, Alaska 99801-7999

RE: Draft Essential Fish Habitat (EFH) Assessment,
Gravina Access Project, #67698/ACHP-0922(5)

Dear Mr. Yost:

The National Marine Fisheries Service (NMFS) has reviewed the referenced Draft EFH assessment. NMFS offers both general and specific revisions for your consideration.

General Comments:

Page 1, Section 1.0, B., second paragraph, last sentence, and Page 13, Section D.:

This sentence states that "Alternatives F1 and F3 would require placing culverts in an unnamed anadromous fish stream that would cause loss of EFH." Section D. reiterates this point. The EFH assessment and DEIS should include, as an alternative for analysis, the use of bridges for these alternatives. Bridges usually eliminate or significantly minimize adverse effects to EFH.

Page 10, Section 4.0, A., first paragraph, fourth and fifth sentences:

These sentences state that "There would be some permanent loss of eelgrass beds from placement of fill in Tongass Narrows. Pier footings and the bridge structures could slow the growth of eelgrass beds by shading, which indirectly would negatively impact EFH."

The EFH assessment should document how much eelgrass would be impacted and where it is located. Figure 1 should map the location of the eelgrass beds, as well as other sensitive habitats, including kelp beds and wetlands. A sentence should

be added to this section that mentions the loss of interspersed eelgrass and kelp in the next section "Impacts of Pier Construction and Modification." Acreage of impacts by habitat type of eelgrass, kelp and wetlands should be included in Table 1-1, which currently provides only "freshwater" and "marine" impacts.

Page 11, Section 4.0, A., third paragraph:

This paragraph outlines plans for channel widening that would deepen a 2,000 foot long by 550-750 foot wide area from -10 to -40 mean lower low water (MLLW). According to this section "This action would eliminate interspersed eelgrass and kelp beds located in this area. Newly exposed soil and rock surfaces would be re-colonized over a period of years. Ultimate benthic assemblages are expected to resemble those now found in similar substrates and depths. Because of the loss of some shallow water habitats, especially on the southwest side of the channel, overall productivity in the area would be less than current productivity in the existing shallower areas."

This discussion should indicate how much eelgrass and kelp would be eliminated, and where it is located (preferably on a map). It is unlikely that these communities would re-establish in the deeper depths that would result. Eelgrass is typically found to -20 feet MLLW in southeast Alaska, and kelp to -60 feet MLLW. This should be clearly stated, and the document should provide a more specific description of the benthic communities referred to as replacing those eelgrass and kelp communities. NMFS may be able to assist with a dive survey to document the benthic habitat in this area. United States Fish and Wildlife Service staff have also expressed interest in a possible dive survey for this project (Mr. Ed Grossman, personal communication, March 11, 2003).

Page 14, fifth bullet:

The blasting plan will need to be reviewed by NMFS for both EFH and marine mammal impacts.

Page 15, fourth bullet:

Placement of riprap along stream banks to maintain stream bank integrity should include the use of bioengineering techniques to improve habitat value of the riprap, by incorporation of willow stakes, or other locally available vegetation.

Specific Comments:

Page 3, section 3.0, penultimate sentence:

Add boldface type to sentence as follows.

"These include Government Creek, Airport Creek **and its tributary**, and two unnamed streams (Figure 1)."

Page 4, section 3.0, A., third sentence:

Replace "dusty rockfish" with "dusky rockfish".

Page 4, section 3.0, A., fourth sentence:

Replace "shore tracker" with "shortraker rockfish".

Page 4, section 3.0, A., eight sentence:

Replace "species; they", with " species, which".

Page 5, section 3.0, C., fifth sentence:

Remove the word "and" from "lower (>1000 meters) and slopes and basen (>3000 meters) (NMFS 1999)."

Page 5, section 3.0, C., "Arrowtooth Flounder" paragraph, fourth sentence:

Remove "s" from word "desmersal" to spell as "demersal".

Page 5, section 3.0, C. "Dusty (sic) Rockfish" paragraph, title and first sentence:

Replace "Dusty rockfish" with "Dusky Rockfish".

Page 6, section 3.0, C. "Pacfic Cod":

Add the sentence "Juvenile Pacific cod have been captured in nearshore eelgrass and kelp beds."

Page 6, section 3.0, C. "Shore tracker (sic) and Rougheye Rockfish":

Replace "Shore tracker" with "Shortraker"

Thank you for the opportunity to review the draft EFH assessment. Please direct any questions you may have regarding these comments to Linda Shaw at (907) 586-7510.

Sincerely,

Jonathan M. Kurland
Assistant Regional Administrator
for Habitat Conservation

cc: EPA, Juneau
ADEC, AADGC, ADNR, ADF&G, USFWS, Juneau
ADF&G, Ketchikan